Please replace the paragraph on page 2, beginning on line 10, with the following amended paragraph:

To promote fusion or arthrodesis across the intradiscal space, intervertebral implants are used to support and fuse together adjacent vertebrae by posterior-fusion or anterior grafting. For example, surgical prosthetic implants for vertebrae described in US Patent No. 5,827,328 include rigid annular plugs that have ridged faces to engage adjacent vertebrae to resist displacement and allow ingrowth of blood capillaries and packing of bone graft. These annular implants are usually made of biocompatible carbon fiber reinforced polymers, or traditional orthopaedic implant materials such as nickel, chromium, cobalt, stainless steel or titanium. The individual implants are internally grooved and are stacked against each other to form a unit between the two adjacent vertebrae. One of the disadvantages of these interlocked implants is that, the implants may not be stable enough to withstand rotation and may lead to implant loosening and failure of the prosthesis.

B2

Please replace the paragraph on page 5, beginning on line 14, with the following rewritten paragraph:

In yet another embodiment, the implantable device includes first and second anchor plates. Inserting the intradiscal device includes positioning the first anchor plate adjacent a first of the adjacent vertebra and positioning the second anchor plate adjacent a second of the adjacent vertebra. Causing the anchoring elements to be introduced into the vertebrae includes causing anchoring elements on the first anchor plate to be introduced into the first vertebra and causing anchoring elements on the second anchor plate to be introduced into the second vertebra.

B3

Please replace the paragraph on page 9, beginning on line 12, with the following rewritten paragraph:

One embodiment of the invention is illustrated in Figure 1, showing a frontal view of an implantable device 10 inserted between two adjacent vertebrae L4 and L5. In this embodiment, the implantable device 10 includes a first anchor plate 12, a second anchor plate

B4

14 and an intradiscal component 16. Each of the first and second anchor plates includes a plurality of anchoring elements 20 extending from a surface 11 of the anchor plate. The anchoring elements 20 on each of the anchor plates 12 and 14 are introduced into vertebrae L4 and L5 through end plates E4 and E5 of vertebrae L4 and L5, respectively. This embodiment of the implantable device has a size approximating the intradiscal space between adjacent vertebrae. This device is particularly suitable for positioning via an anterior approach. Because intervertebral discs are located in front of the spine and anterior to the spinal cord 15, prosthetic operations such as disc replacement through an anterior approach eliminates the need to remove or retract nerve, thus reducing the risk of nerve injury.

Please replace the paragraph on page 9, beginning on line 28, with the following rewritten paragraph:

Alternatively, the implantable device according to the present invention may also be sized to a hemicycle or hemicircle. As illustrated in Figure 2, two hemioval implantable devices 30 and 32 can be used to approximate the intradiscal space and conform with the general outline perimeter of the vertebrae. Such an implantable device with a hemioval size allows better access to the posterior portion of the spine when the devices are implanted through a posterior approach. For example, the first hemi- device 30 can be inserted into and fill in half of the intradiscal space without colliding with the spinal cord, then followed by placing the second hemi- implantable device 32 to fill in the other half of the intradiscal space. Similar to the implantable device 10 illustrated in Figure 1, the anchoring elements on the hemi- implantable device are introduced into the end plate E4 and E5 of the vertebrae L4 and L5, respectively. Bone graft material or artificial disc can be put into the device for posterior-lateral fusion or rigid posterior instrumentation. Positioning the bone graft material between first and second anchor plates 12, 14 to attain fusion and prevent the anchor plates from being dislodged from the vertebrae.

Please replace the paragraph on page 12, beginning on line 14, with the following rewritten paragraph:

The materials used to construct the anchor plate and the implantable device are preferred to be able to endure the stresses and environment to which a vertebra implant is subjected. In addition, such materials should be biocompatible, and substantially chemically inert so as not to cause any detrimental effect to the patient in whom the device is implanted. The anchor plate and implantable device may be made of radiolucent material such as carbon fiber reinforced polymers known commercially as "Peek" (polyetherether ketone) or "Ultrapek" (polyether ketone, ether ketone, ketone), polycarbonate, polyprophylene, polyethylene and polysulfone plastics material filled with glass or carbon fibers, or traditional orthopaedic implant material such as nickel stainless steel, titanium alloy, heavy plastic polymer, ceramic, etc. One of ordinary skill in the art will recognize other suitable materials, for example, a cobalt-chromium alloy or a titanium alloy having 4% vanadium and aluminum, ceramic material such as aluminium oxide and zirconium oxide. The surface 71 of the anchor plate 70 is preferred to be rough to potentiate bone ingrowth on the side of the plate contacting the end plate E4 of the vertebra L4, thereby strengthening the anchorage to the end plate. The surface 73 of the anchor plate 70 may be porous coated or coated with hydroxyapatite or bioactive proteins (e.g. bone morphogenic protein) to promote bone ingrowth.

B6

Please replace the paragraph on page 17, beginning on line 1, with the following rewritten paragraph:

In yet another embodiment according to the method, the implantable device includes first and second anchor plates, inserting including positioning the first anchor plate adjacent a first of the adjacent vertebra and positioning the second anchor plate adjacent a second of the adjacent vertebra, and the anchoring elements to be introduced into the vertebrae including causing anchoring elements on the first anchor plate to be introduced into the first vertebra and causing anchoring elements on the second anchor plate to be introduced into the second vertebra.

B7